In producing my improved contact point instead of using a sheet or disk of copper simply placed between the two elements to be united, I coat the base with a thin layer of copper 14 preferably by an electroplating process. Preferably the copper 14 is applied to the entire surface of the base in a thin coat less than one-thousandth of an inch in thickness. Then the contact tip or arcing element is placed on the base thus coated with copper and the two elements are inserted in a furnace until the copper coat is fused, and this very effectively unites or bonds the tungsten to the base. But there is this important difference between the results thus obtained and results obtained if the parts are brazed by simply placing a layer or disk of copper between the elements, that when the copper is applied as a thin coat onto the base and when the copper is fused, absolutely none of the copper flows or flashes onto the tungsten, and when the contact point is removed from the furnace the external surface of the tungsten is absolutely clear or free of the copper, and thus the necessity for subjecting the contact point to the pickling process is entirely eliminated. I find that the copper which is fused remains and flows solely on the base, some of the copper running down the shank or neck of the base forming a slight fillet at the point where the shank joins the body of the base, and otherwise slightly increasing the thickness of the copper coat along the shank.

While I cannot with absolute certainty explain why none of the copper flows or flashes onto the arcing element, I believe that it is due to a sort of surface tension which exists in the fused copper which entirely covers the base and prevents it flowing onto the tungsten. Furthermore, when the copper is fused the entire surface of the base is in a liquid state, whereas the surface of the tungsten or arcing element is dry and solid, so that there is a much easier path of flow on the base than onto and along the tungsten. However, whether or not the above theory or explanation is correct is believed to be immaterial, for the fact remains that with my improved contact point when the latter is removed from the furnace, the tungsten does not contain any evidence or trace of copper on its external surface, and is ready for use. I thus eliminate the necessity for the pickling process and secure a better process.

Having thus described my invention, what I claim is:—

1. A contact point composed of a piece of tungsten brazed to a base by brazing material applied in the form of a coating which covers the portion of the base adapted to receive the contact point, and adjacent portions of the base.

2. A contact point composed of a piece of tungsten brazed to a base by brazing material applied in the form of a coating entirely covering the base.

3. A contact point composed of a piece of tungsten brazed to a copper plated iron base the copper being applied in a thin coating which covers the portion of the base adapted to receive the contact point and adjacent portions of the base the said copper constituting a bond between the tungsten and the base.

In testimony whereof, I hereunto affix my signature.

JOSEPH A. WILLIAMS.